

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
13 June 2002 (13.06.2002)

PCT

(10) International Publication Number  
**WO 02/45808 A1**

(51) International Patent Classification<sup>7</sup>: **A63F 13/12**, 13/10, G06F 19/00

(21) International Application Number: **PCT/AU01/01576**

(22) International Filing Date: 5 December 2001 (05.12.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
PR 1988 8 December 2000 (08.12.2000) AU

(71) Applicant (for all designated States except US): **STRUCTURED DATA SYSTEMS PTY LTD [AU/AU]**; 5 Bowen Crescent, Melbourne, Victoria 3004 (AU).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **DAYAN, Marcel** [AU/AU]; 7 Menzies Avenue, Brighton, Victoria 3186 (AU). **TSABAZIS, Nick** [AU/AU]; 27 Southernhay Street, Reservoir, Victoria 3073 (AU).

(74) Agent: **GRIFFITH HACK**; Level 3, 509 St Kilda Road, Melbourne, Victoria 3004 (AU).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

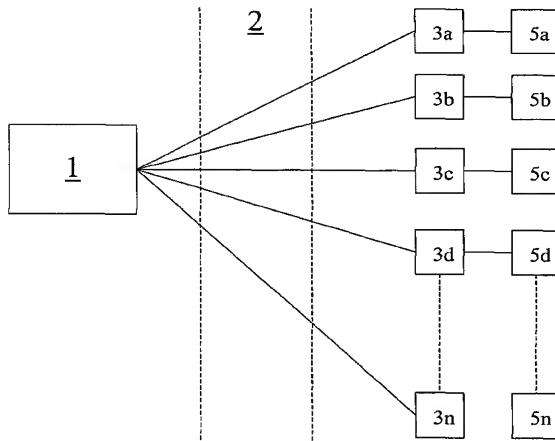
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: RACE SIMULATION SYSTEM AND METHOD



WO 02/45808 A1

(57) Abstract: The invention provides a system for ensuring consistent simulation of a race on a plurality of remote computer displays. The system includes a host computer (1) configured to generate a finishing order for participants in a race, to choose a race scenario from one of a plurality of race scenarios, each scenario corresponding to a variation on the running of the race, and to transmit race data identifying the finishing order and the race scenario to each of a plurality of remote computers (3). The system also includes a plurality of remote computers (3) configured to receive the race data transmitted by the host computer (1), each remote computer (3) having a display (5) and storage means in which said plurality of scenarios are stored, and wherein each said remote computer (3) is configured to simulate a race on said display (5) in accordance with the race data by fitting the finishing order to the chosen scenario, whereby the race will be simulated consistently on each remote computer display (5).

- 1 -

RACE SIMULATION SYSTEM AND METHOD

Field of the Invention

5        This invention relates to a system and method for  
ensuring consistent simulation of a race on a plurality of  
remote computer displays. More particularly, but not  
exclusively, the present invention relates to the  
simulation of a race which is to be used as the basis of a  
10      gambling game.

Background to the Invention

15      A number of video based racing games have been  
proposed in which the race is simulated and persons can bet  
on the various participants in the race and the outcome of  
the race is generally generated in accordance with some  
random outcome generation technique.

20      A problem with prior art games is that they  
generally have to be run at a single location, thus  
reducing the number of people who could potentially bet on  
the game and hence reducing the size of the prize pools  
which can be offered. Australian patent 705689 suggests  
25      that such games could be broadcast over a television  
channel, however it will be appreciated that access to  
television channels is relatively limited and that an  
organisation wishing to organise a video racing game may  
not have access to a television channel or may not be able  
30      to convince a television channel to run their racing game.

35      While a number of alternative communication  
systems exist over which a race simulation could be  
transmitted, these communication systems have inherent  
bandwidth limitations which will limit the quality of the  
race simulation. Further, where a race simulation is to be  
displayed at a number of remote locations, the quality of

- 2 -

the simulation is effectively limited by the smallest bandwidth. It will be appreciated that the quality of the experience for the gamblers will be enhanced if the quality of the simulation is of a higher standard and hence that it  
5 is desirable to provide a system which is not reliant on the availability of high bandwidth.

This invention provides an alternative technique for enabling a race to be simulated at a plurality of  
10 remote locations.

Summary of the Invention

Accordingly, the invention provides a system for  
15 ensuring consistent simulation of a race on a plurality of remote computer displays, the system including:

a host computer configured to generate a finishing order for participants in a race, to choose a race scenario from one of a plurality of race scenarios,  
20 each scenario corresponding to a variation on the running of the race, and to transmit race data identifying the finishing order and the race scenario to each of a plurality of remote computers; and

a plurality of remote computers configured to receive the race data transmitted by the host computer, each remote computer having a display and storage means in which said plurality of scenarios are stored, and wherein each said remote computer is configured to simulate a race on said display in accordance with the race data by fitting  
30 the finishing order to the chosen scenario, whereby the race will be simulated consistently on each remote computer display.

Thus, the same race will be displayed on each of the remote computer displays so that persons viewing the same race on different displays will experience the same race.  
35

- 3 -

Preferably, the race data is transmitted over a wide area network.

5 Alternatively, the race data is transmitted over a public switched telephone network.

Alternatively, the race data is transmitted over the internet.

10

Preferably, the race is a horse race.

Alternatively, the race may be a harness race, a greyhound race or any other type of race.

15

Preferably, the host computer also generates the names of the participants in the race and the remote computer fits the name to the scenario.

20

Preferably, the host computer also generates betting information and the remote computers are configured to display the betting information in an appropriate format.

25

The present invention also provides a method for ensuring consistent simulation of a race on a plurality of remote computer displays, the method including:

30

generating a finishing order for participants in a race, choosing a race scenario from one of a plurality of race scenarios, each scenario corresponding to a variation on the running of the race, and transmitting race data identifying the finishing order and the race scenario to each of a plurality of remote computers; and

35

receiving at each of a plurality of remote computers transmitted race data each remote computer having a display and a storage means in which said plurality of scenarios are stored, and

simulating a race on said display of each said

- 4 -

remote computer in accordance with the race data by each said remote computer fitting the finishing order to the chosen scenario, whereby the race will be simulated consistently on each remote computer display.

5

Brief Description of the Drawings

A preferred embodiment of the invention will now be described in relation to the following drawings in  
10 which:

Figure 1 is a schematic diagram of the system of the preferred embodiment;

Figure 2 is an example of a display shown on a remote computer at the commencement of a race; and

15 Figure 3 is an example of what is shown on a display during a race.

Description of the Preferred Embodiment

20 In the example of the preferred embodiment, the system and method of the preferred embodiment is used to ensure that a horse harness race is simulated consistently on a plurality of displays 5a to 5n of a plurality of remote computers 3a to 3n.

25

In the preferred embodiment, there are a plurality of race scenarios which correspond to variations on the running of the race. A scenario is a script (or program) from which the remote computer animates the race  
30 in real-time. In the preferred embodiment, the scenario specifies the position of each of the participants in each frame to thereby specify the manner in which the race will be run. Thus, it will be appreciated that each scenario consists of a large number of frames which are displayed on displays 5. The scenario also specifies which part of the animated race course will be displayed at any one time.  
35 For example, at the start the participants may be shown

- 5 -

head-on, then the view may switch to a side-on view (such as is shown in Figure 3) which focuses initially on the leaders before panning back to the other participants where the view may pick up on the ultimate winner as it begins to move through the field of participants to the lead.

The specification of the position of the participants also enables the remote computer to generate appropriate commentary to accompany the scenario - e.g. commenting on the relative and actual positions of the horses during the animated race and to display the current positions of the horses along the bottom of the screen, much as occurs in some television broadcasts of horse races.

15

The scenarios will vary in such parameters as the length of the race, the number of participants, and the manner in which the images on the display which represent the participants move from the starting point to the finish 20 of the race.

An example of a scenario is shown in Figures 2 and 3. Figure 2 shows twelve harness racing horses 7a to 7l lined up at the start of a race. As the race progresses 25 to the situation shown in Figure 3, the horses 7a to 7l have moved relative to one another as would occur in the normal running of a horse race. For example, it will be apparent that horse 7a is positioned toward the middle of the field of horses in Figure 3. The scenarios are 30 generated in order to prepare a number of realistic seeming race scenarios, in which, for example a horse may lead from the front the whole way and win the race, or may come from behind, or may appear to have won the race before being beaten on the line etc. Thus, for each scenario there will 35 be a finishing order for each image of the horses 7a to 7l.

In the preferred embodiment, the host computer

- 6 -

generates a finishing order for the participants of the race who, in the example of the preferred embodiment, are harness racing horses and also chooses a scenario. The host computer then transmits this race data over a  
5 communications network 2 to the plurality of remote computers 3a - 3n. The remote computers each have all of the possible scenarios stored in a storage means such as a hard disk and are programmed to fit the finishing order to the scenario.

10

Fitting of the finishing order to the scenario is achieved by the remote computer 3, determining which horse images 7a to 7l will finish in which places in the chosen scenario and allocating participants to these images in  
15 accordance with the finishing order for participants which was generated by the host computer 1. The remote computers 3a to 3n are then configured to display the race on displays 5a to 5n in accordance with this race data - thus, ensuring consistent simulation of the race at each of the  
20 remote computers while avoiding the need to transmit the race simulation over communication network 2.

Thus, one can envisage two gamblers who have seen the race at different locations coming together and  
25 discussing the race and being able to comment on the performance of particular horses and the manner in which they performed during the race - e.g. that a particular horse performed remarkably. It will be appreciated by those skilled in the art that consistent simulation is  
30 particularly important in the gambling industry because there is a need for the result to appear to be fair to those participating in the game. Any discrepancies for example, if the same results were fitted to a different scenario - would cause gamblers to lose faith in the game.

35

It will be appreciated by those skilled in the art that other information may be transmitted from the host

- 7 -

computer to the remote computers 3. For example, in the lead up to the race, a list of participants may be transmitted from the remote computer 1 to the remote computers 3. For example, the host computer might transmit 5 a list of participants (including their names) together with betting information if the relative odds of winning the race are uneven. Alternatively, the remote computers may store a list of possible participants in storage means or memory device and be configured to generate betting 10 information in accordance with data provided in connection with each of the possible participants. For example, the horses could be given a ranking indicative of the quality of the horse and the betting information could depend on the quality of individual horses together with the overall 15 quality of the field. That is, a highly ranked horse would have a greater probability of winning and hence lower odds in a race where the overall standard of horses was lower than it would in another race where the participants were of higher quality.

20

Various modifications of the preferred embodiment will be apparent to persons skilled in the art, for example, the participants need not be harness horses but could be normal racing horses or greyhounds, or humans or 25 cars. Further, it will be appreciated that while it is preferred that the entire finishing order be the same in all race simulations it is only essential for those horses whose placing will effect the gambling to finish in the correct order in all scenarios in which case the finishing 30 order may only transmit part of the finishing order for the race and the remainder of the finishing order may be determined by a random mechanism at each of the remote computers. Further, the scenario need not show the complete running of the race - e.g. all horses crossing the 35 line - but may produce a list of place getters.

These and other modifications will be apparent to

- 8 -

persons skilled in the art and should be considered as falling within the scope of the invention being described herein.

- 9 -

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A system for ensuring consistent simulation of a race on a plurality of remote computer displays, the system  
5 including:

a host computer configured to generate a finishing order for participants in a race, to choose a race scenario from one of a plurality of race scenarios, each scenario corresponding to a variation on the running  
10 of the race, and to transmit race data identifying the finishing order and the race scenario to each of a plurality of remote computers; and

15 a plurality of remote computers configured to receive the race data transmitted by the host computer, each remote computer having a display and storage means in which said plurality of scenarios are stored, and wherein each said remote computer is configured to simulate a race on said display in accordance with the race data by fitting the finishing order to the chosen scenario, whereby the  
20 race will be simulated consistently on each remote computer display.

2. A system as claimed in claim 1, wherein said host computer also generates the names of the participants in  
25 the race and the remote computer fits the name to the scenario.

3. A system as claimed in claim 1 or claim 2, wherein said host computer also generates betting information and the remote computers are configured to display the betting information in an appropriate format.  
30

4. A system as claimed in any one of claims 1 to 3, wherein said race is one of a horse race, a harness race or  
35 a greyhound race.

5. A system as claimed in claim 1, wherein said race

- 10 -

data is transmitted over a wide area network.

6. A system as claimed in claim 1, where said race  
data is transmitted over a public switched telephone  
5 network.

7. A system as claimed in claim 1, wherein said race  
data is transmitted over the internet.

10 8. A method for ensuring consistent simulation of a  
race on a plurality of remote computer displays, the method  
including:

15 generating a finishing order for participants in  
a race, choosing a race scenario from one of a plurality of  
race scenarios, each scenario corresponding to a variation  
on the running of the race, and transmitting race data  
identifying the finishing order and the race scenario to  
each of a plurality of remote computers; and

20 receiving at each of a plurality of remote  
computers transmitted race data each remote computer having  
a display and a storage means in which said plurality of  
scenarios are stored, and

25 simulating a race on said display of each said  
remote computer in accordance with the race data by each  
said remote computer fitting the finishing order to the  
chosen scenario, whereby the race will be simulated  
consistently on each remote computer display.

1/3

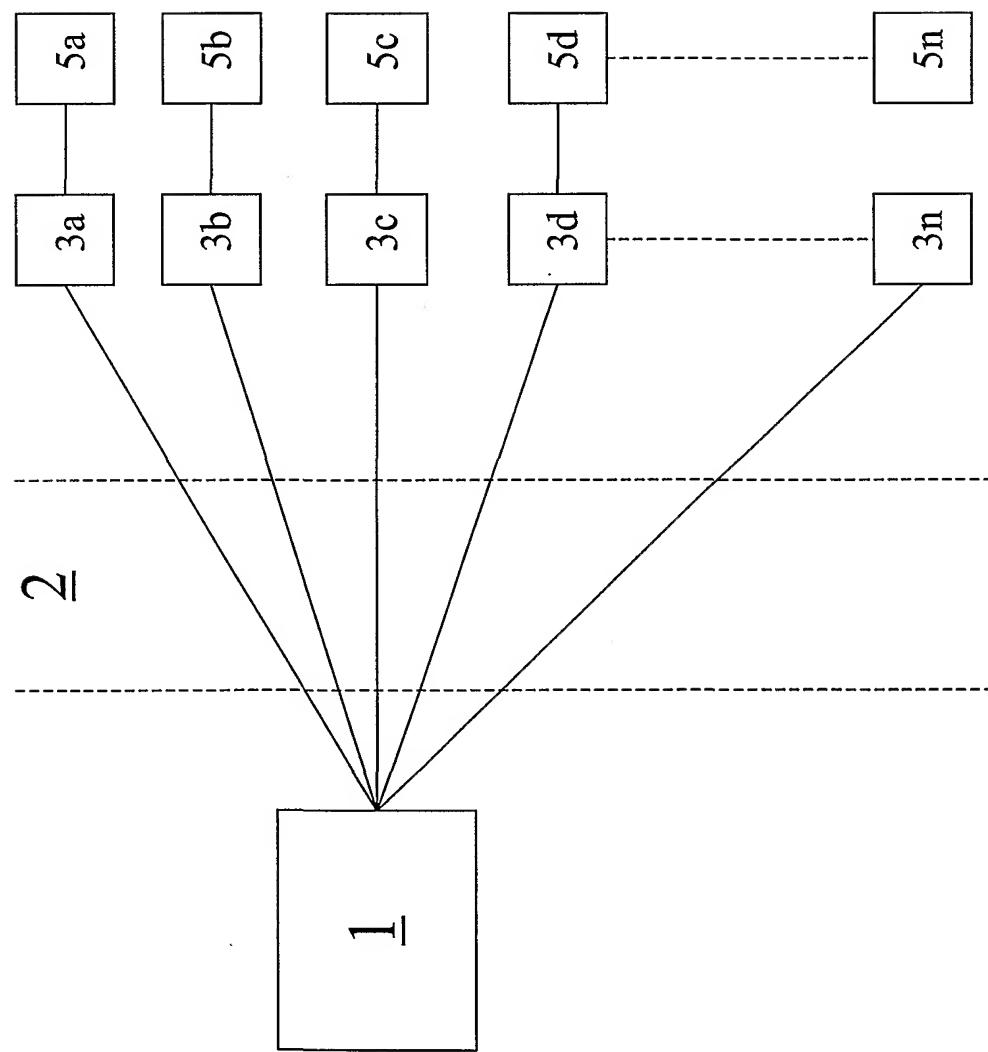


Figure 1

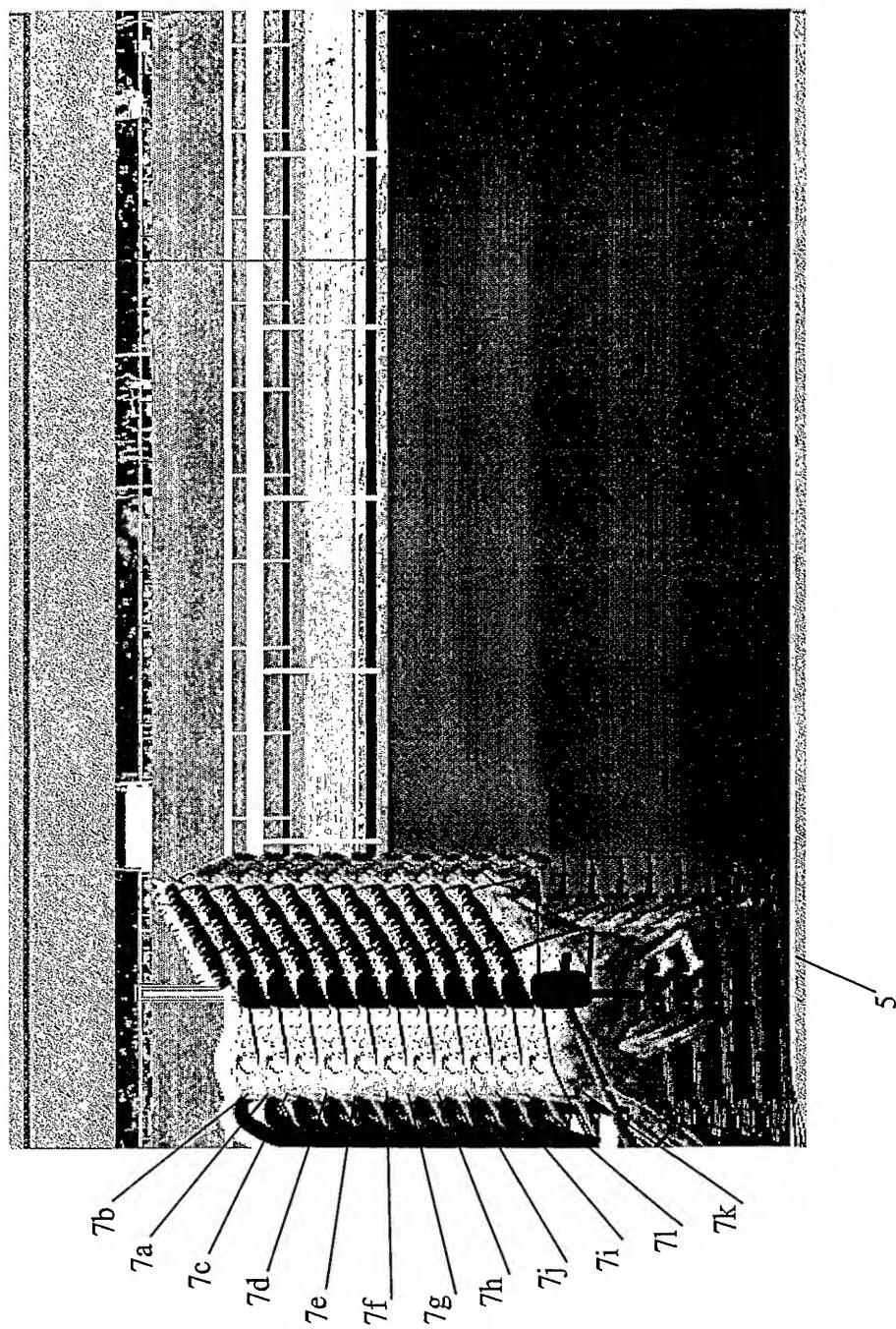
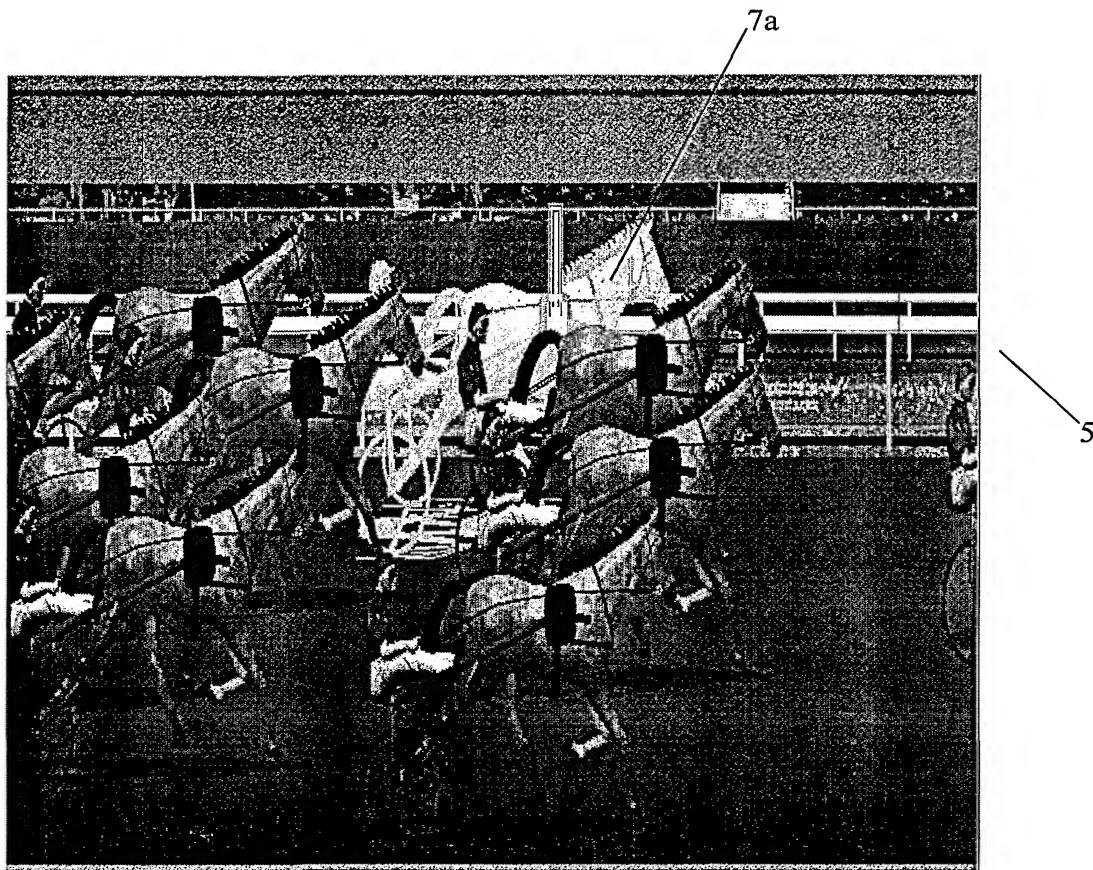


Figure 2

Figure 3



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU01/01576

**A. CLASSIFICATION OF SUBJECT MATTER**Int. Cl. <sup>7</sup>: A63F 13/12, 13/10; G06F 19/00

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

Refer electronic data base consulted below.

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

AU: IPC A63F 3/06, 3/08, 13/10, 13/12

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

DWPI: IPC A63F 3/-, 13/-; G06F 15/-, 17/-, 19/- with keywords such as computer, race, simulation and similar words.

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6152824 A (ROTHSCHILD et al) 28 November 2000 Whole document	1-8
P, A	AU 23089/01 A (KONAMI CORPORATION) 23 August 2001	
A	US 5964660 A (JAMES et al) 12 October 1999	
A	US 5083800 A (LOCKTON) 28 January 1992	

Further documents are listed in the continuation of Box C     See patent family annex

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

4 January 2002

Date of mailing of the international search report

- 8 JAN 2002

Name and mailing address of the ISA/AU

AUSTRALIAN PATENT OFFICE  
PO BOX 200, WODEN ACT 2606, AUSTRALIA  
E-mail address: pct@ipaaustralia.gov.au  
Facsimile No. (02) 6285 3929

Authorized officer

JEFFREY CARL

Telephone No : (02) 6283 2543

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.  
**PCT/AU01/01576**

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report			Patent Family Member			
US	6152824	NONE				
AU	23089/01	EP	1125606	JP	2001224841	US
US	5964660	US	6179713			2001016509
US	5083800	CA	2018597	EP	405776	JP
						3-103278

END OF ANNEX